Product data sheet

HR486

Linear Low Density Polyethylene for rotational moulding

sasol
reaching new frontiers

Sasol Polymers
Polyolefins Business

Sasol Polymers LLDPE: HR486 Density: 0.939 g/cm³ Melt index: 3.5g/10min

Features

- High rigidity
- Excellent impact strength
- Excellent chemical resistance
- Good ESCR
- Heat and UV resistant
- Tough and abrasion resistant
- Colourable
- Hexene copolymer

Applications

- Large agricultural tanks
- Large industrial tanks
- Solar panels
- Outdoor use

Additives

- Antioxidant
- UV stabiliser
- Internal mould release

Material properties (typical values not to be construed as specifications)

	Value	Unit	Test method	Based on
MFI (190°C/2.16kg)	3.5	g/10min	PTM058	ASTM D1238
Nominal density	0.939	g/cm^3	PTM002	ASTM D1505
Tensile strength at yield	19	MPa	PTM006	ASTM D638 [1]
Tensile strength at break	24	MPa	PTM006	ASTM D638 [1]
Elongation at break	830	%	PTM006	ASTM D638 [1]
Flexural modulus	837	MPa	PTM008	ASTM D790
ESCR F_{50}	>500	hr	PTM001	ASTM D1693 [2]
Impact energy at -40°C	35	J/mm	PTM044	ASTM D3029 [3]
Shore D hardness	61	Shore D	PTM087	ASTM D2240
Vicat softening temperature	120	°C	PTM086	ASTM D1525

1) Crosshead speed 50mm/min
2) 100% Igepal C0630
3) Tested on 5mm rotomoulded product

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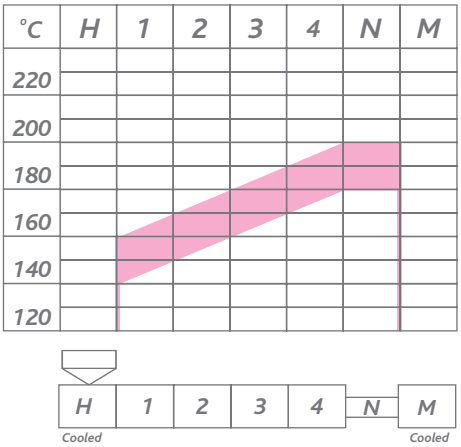
Typical processing conditions



Processing

An air temperature of 270°C to 300°C is recommended for rotational moulding of HR 486. Temperatures above 300°C should be avoided as this would narrow the processing window considerably and could result in poor physical properties. Due to the material's excellent heat resistance it has very good colour stability even in overcure conditions.

Pigmentation for rotational moulded parts

For colouring purposes inorganic pigments should be added at the lowest possible concentration and mixed in using a high speed mixer or a tumble blender, prior to moulding. Pigment preparations should contain only minimal amounts of dispersants.

Packaging

Sasol Polymers polyolefin resins are supplied in pellet form packed in 25kg bags. Alternative packaging modes for polypropylene resins are available for selected grades.

Handling

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses and heat resistant gloves are suggested as a minimal precaution to prevent possible mechanical or thermal injuries to the eyes and skin. Fabrication areas should be ventilated to carry away fumes or vapours.

Conveying equipment should be designed to prevent accumulation of fines or dust particles that are contained in all polyolefin resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. Sasol Polymers recommend the conveying system used:

- *be equipped with adequate filters*
- *is operated and maintained in such a manner to ensure no leaks develop*
- *that adequate grounding exists at all times*

Sasol Polymers further recommend that good housekeeping be practised throughout the manufacturing facility. Polymer pellets may pose a slippage hazard if spilled.

Storage

As ultraviolet light may cause a change in the material properties, all polyolefin resins should be protected from direct sunlight during storage. Under cool, dry, dark conditions Sasol Polymers polyolefin resins are expected to maintain their original material and processing properties for at least 18 months.